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PLANTING GUIDE

AND
SUCCESSFUL CULTURE

OF

FILBERTS WALNUTS
CHESTNUTS - - ALMONDS
AND PECANS

ON THE PACIFIC COAST



(FRANQUETTE WALNUT AND BRIXNUT FILBERT)

BUY HARDY NORTHWESTERN
TREES

Grown from Bud Selected
and Certified Varieties

CARLTON NURSERY COMPANY

"SINCE 1890

CARLTON, OREGON



CARLTON FILBERT TREES ARE FULL OF LIFE AND ENERGY

NUT TREE SPECIAL PREMIUM OFFER

To customers buying an order of Nut Trees over \$20 we offer a collection of 5 of the very finest varieties of Japan Double Pink Cherry, Flowering Crab, Flowering Red Leafed Trees, Flowering Almond, Double Red or Pink Flowering Peach, for the names of two friends interested in nuts. Favor us today with your order and receive this beautiful collection. Select your Premium Trees from our new "Commercial Planting Guide."

MAKE YOUR PRESENT LAND WORTH \$1000 TO \$2000 PER ACRE. FILBERTS, WALNUTS AND CHESTNUTS READILY PAY 12% TO 15% ON \$1500 LAND.

Filberts, Walnuts, Chestnuts and Almonds are all very profitable nut crops of the Pacific Coast. Plant a nut orchard and reap golden profits in a very few short years. Our nut trees are grown from record bearing strains budded to the type of root system best suited to your area. Send today for our complete "Commercial Planting Guide and Condensed Price List" of Fruit and Nut Trees for Pacific Coast. Nuts are a heavy bearing, non-perishable crop.

**\$450 FROM TWO AND ONE-FOURTH ACRES
"Big Profits Obtained from Filbert Orchards"
at Nine Years Old**

C. L. Vonderahe of Oregon City, Oregon, Rt. 3, Box 50, sold this last year: \$450 worth of filberts from two and one-fourth acres of nine year old Barcelona trees. He sold them to Baker, Kelley & McLaughlin, Inc., of Salem, Oregon. Mr. Vonderahe writes us he expects nearly twice as heavy a yield this coming season.

Immense yields of more than two ton per acre are very easily obtained on rich river bottom or deep hill soils, when your orchard comes into full bearing at 15 years or older. Reported yields of 75 to 100 lbs. on 20 year old trees is not uncommon.

FILBERTS ADAPT THEMSELVES TO A VERY WIDE RANGE OF SOILS ALONG THE PACIFIC COAST. From British Columbia to many parts of California the filbert is very prolific.

FILBERT Culture is profitable enterprise on this coast

The following facts and suggestions are earnestly offered to Prospective Planters of Filbert Trees, and as a successful guide to producing a profitable grove.

Ideal soil and climatic conditions found in certain parts of Oregon, Washington, California and British Columbia have proven to be exceedingly well adapted to the culture of Filberts. Many groves in these areas planted in the last ten to thirty years have proven very profitable as commercial investments for their owners. Regular bearing habits and heavy yields make them favorable to plant. They enjoy an amazingly strong

market position, placing them at the top as a farm crop. Young groves at five years old produce a paying crop. Reported yields of 25 to 30 lbs. on 8 year trees, 30 to 40 lbs. on 10 year trees, 60 lbs. on 15 year, and as much as 100 lbs. and more on 25 year old trees, would positively indicate that they are paying profits far in excess of ordinary farm crops.

The filbert industry is young and future possibilities are immense. This growing horticultural enterprise is past the stage of experimentation. Definite methods of planting, pruning, cultivation, harvesting and marketing, have been successfully developed. Consumption of filberts in the U. S. in the past few years has made rapid strides and today is consuming more than 30 million pounds annually and which amount is mostly imported, showing a great field for expansion of the filbert industry on this coast. The metropolitan centers of the East and Middle West have tasted our Western grown nuts in the last few years and brokers from those sections flood our nut marketing organizations with early orders to insure securing a highly flavored filbert for their trade. The quality of the Western grown filbert is far superior to the foreign filbert imported chiefly from Sicily, England, France and Italy. European competitors are compelled to pay 5c to 10c per lb. tariff. Their new crop does not reach us in time to catch our holiday season and is often stale and rancid on arrival. Rapid growing co-operative nut selling organizations in Oregon and Washington are ready to take care of your crop.

Filberts are used by large manufacturing industries in cakes, cookies, candies, bread and ice cream, as well as sold daily, as a healthful food to an ever increasing appetite of the nut consuming American. They are a healthy nut, rich in flavor, easy to crack, clean, readily digested and high in food value.

Adaptability

Every farmer, orchardist, berry grower, poultryman and small home owner in the Northwest should have some filberts planted at least for his own use. The poultryman will find the filbert a very convenient and non-perishable crop to have growing in his poultry yard. The farmer having land suited to their culture can well set aside a small acreage for their growing. They will prove to be his best investment. Coming into production at an early age and requiring only limited capital to bring on to a point where they are productive and paying good dividends at four and five years and doubling that production rapidly, they can well be considered a good investment for the thrifty laborer, owning land, who is seeking a safe investment to take care of his needs in later years. Bankers, professional men and merchants find them a safe investment. Berry growers often use the filbert as a follow-up crop when production slows down with their berry plants. Planting them at the same time as the berries, they find them in good production when the berries run out. This works as a double investment for the grower.

Hardiness

Filberts adapt themselves to weather conditions far better than any other farm crop. Untimely rains do not affect their winter and early spring blooming habits, as often occurs with many fruits. Fall rains do not injure this hardy nut at harvest time. Crop failures are unknown where properly pollenized. In Oregon and Washington filbert trees have withstood temperature of 15 to 20 degrees below zero and produced crops the following spring. To date we do not have any serious pests to cause excessive spraying. Filbert trees in England are still bearing at 150 years old.

Soils

The filbert will, no doubt, adapt itself to a greater variety of soils than most trees grown for commercial production. They, however, respond to good soil and extra cover cropping with vetch, rye and good barnyard fertilizer, or commercial fertilizer. The ordinary heavy valley loams, rolling shot or loam soils, and sandy river bottoms found in Western British Columbia, Washington, Oregon and parts of California will produce abundant crops. Many fine groves are found adjacent to the Canadian border at Lynden and Everson, Washington. Also at Everett, Bellingham, Sedro Wooley, Seattle, Tacoma, Chehalis and throughout Clark County, Washington, are found many fine productive groves and trees. Throughout the Willamette Valley in Oregon are found many commercial groves which are very profitable. In the Rogue River Valley of Oregon is found several very fine orchards grown both under irrigation and without. California plantings up to cisco and in the mountainous section near Nevada City, but filberts will thrive in many sections of California and bear heavy, profitable crops.

Filberts respond to cultivation and thrive best where water tables are low and should not be planted on sour, heavy soil.

Certified Yields

A. G. Holman of Albany, Oregon, reports a yield of over 2 lbs. average on a block of 1200 Barcelona trees 4 years old (accurate weight totalled 2717 lbs.). The same block averaged 5 lbs. their 5th year. R. W. Grant of Vancouver, Wash., reports a yield of

5½ lbs. average on 120 DuChilly trees their fifth summer and 2¾ lbs. average their fourth summer. A local grower of Brixnut filberts secured a yield of 22 lbs. on 8 year trees. Individual yields on 6 year trees at Eugene show as much as 15 lbs. but from our records would state that the following yields may be expected where proper nursery stock is planted where soil condition is of average fertility: Six year old—300 to 600 lbs. per acre or 100 trees; (8 year old—750 to 1200 lbs. per acre; 10 year old—1000 to 1500 lbs. per acre; 15 year old—2500 to 3000 lbs. per acre); 20 year old—from 3000 to 4000 lbs. per acre.

Production

Filberts often set on trees planted the first and second year, proving them to be very eager producers. Before entering into this subject we wish to state that soil fertility, cultivation and pruning will govern production to a large extent. Six year trees often produce 5 to 8 pounds of nuts. Seven year trees in our own grove have produced 22 lbs., but averaged around 14 pounds to the tree per acre. Yields reported from various growers in the Willamette valley show that 9 to 11 year trees vary from 15 to 35 pounds per tree. The scion wood for our grafted filbert stock is taken from trees with a record of 45 to 60 pounds in their 12th year. Mature trees have borne more than 100 pounds in Oregon. At prices far below the average now received per pound by Oregon filbert growers, we consider that they would still be a safe and profitable investment. More than 4300 pounds were taken from an acre and a quarter at Linneman Junction, near Portland. Cost of production is very low compared with many horticultural crops. No expensive machinery, sprayers, driers, trays, or ladders are needed in the production of filberts. Rain nor frosts have any effect on this winter blooming crop. They have withstood very severe weather at blooming time and bore heavy crops. Filberts fall to the ground early in the fall and are picked up and stored in boxes, where good air circulation can take place. We suggest that trees be kept in tree form, as this will be a great aid in cultivation.

Propagation

We offer two distinct types of Nursery Grown Filbert Trees. Each method carries certain distinct advantages adaptable to certain soil conditions in various sections along the coast. We will gladly aid you in selecting the right root stock for your locality.

GRAFTED SUCKERLESS TREES—We are the originators of this method of propagation in nursery grown filbert trees. After finding but one fault with a filbert grove on its own root (the continual suckering at the base of the tree) we decided to look deeply into the possibility of eliminating this fault and the consequent annual expense. Taking the matter up with the Department of Agriculture we found the Turkish filbert (*Corylus Colurna*) to be our salvation. We found in this root stock all the advantages any veteran nurseryman would seek. Reports on hardiness from Ontario, Canada, indicated that this tree would stand 50 degrees below zero on well drained soil. Similar reports came from New Hampshire of their hardiness; also from Geneva, New York, come reports of its hardiness. Henry Hunting's Barcelona orchard at Silver Creek, Washington, grafted on Turkish root, is now 9 years old and is one of the finest orchards in Washington for



Figure 1—Grafted Filbert tree on New Suckerless Turkish Root Stock

Figure 2—Transplanted Tip Layered Tree

its age. Records kept by Mr. Huntting show that not a single tree in this block has been lost by blight. A check made two years ago on brown stain by the U. S. Dept. of Agriculture from Corvallis showed less than 3 per cent brown stain on this root while adjacent Barcelona trees on own root showed as much as 25 per cent infection. Brown stain, however, was only seasonal and has never appeared again along the coast. There is no question about the superior resistance of the Turkish root.

The Carlton Nursery Company have adjacent to Carlton more than 15 acres of the Barcelona grafted on Turkish root that are bearing heavily the finest of quality filberts and we invite any prospective planter to visit our orchards and ascertain by personal contact the true facts concerning this type of orchard grown on the New Non-sprouting Suckerless Root System (known as Turkish Root). We guarantee them to be as represented, free from base suckers and will prove a great money saver to any filbert grower.

Much difficulty was experienced in getting a foundation laid for the propagation of this Turkish root stock. After receiving some of the nuts and small trees from the Government we set out to find a source of supply in Austria or Turkey. Careful comparative checks showed that an orchard of this Turkish filbert had been planted within our own state 15 years previously, by error, the owner thinking he was planting the Italian filbert. Observation of this orchard for over 23 years proves them to be entirely free from base suckers, true tree form, a rapid grower, free from blight, drought resistant, deep rooted and highly productive.

We offer grafted on this Turkish root all the standard proven sorts of filberts, such as Barcelona, DuChilly, Brinnut, Daviana, Clackamas, Halles Giant and others. True certified bud selection is made for the propagation of all our stock and this sort of culture is your assurance of planting a strain of nuts that will not only bear quality but will bear quantity, as we have selected buds from trees that have a record of producing 45 to 60 lbs. of filberts during their 12th year.

If you wish to plant only the very best stock obtainable in filberts today we strongly encourage you to set this stock grafted on the Suckerless Turkish root. An orchard grafted on this Turkish suckerless root stock will not only prove very profitable to the planter but will prove a source of pleasure to grow.

Plant Only the Very Finest of Filbert Trees. Our New Type of Grafted Filbert Tree on the Turkish Suckerless Root Stock is Far Superior to Anything Now Offered

This tree is exceptionally deep rooted like the walnut tree. Well adapted to a wide range of hilly soil, well drained valley land, and under irrigation. OUR OWN ORCHARDS ON THIS ROOT STOCK prove their great superiority over our original plantings on their own roots. They produce large, well filled filberts with wonderful flavor. The tree is a very rapid grower. Our 45 years experience in successful orchard growing and as reliable and competent nurserymen stand behind the Grafted Filbert Tree. CAREFUL PERSONAL SERVICE OFFERED FREE TO ALL COMMERCIAL PLANTERS ON APPLICATION. We CONTRACT PLANTING OF ALL TYPES OF ORCHARDS AT COST.

FOR SMALL YARDS OR PARKING SPACE PLANT THESE LARGE COMBINATION GRAFTED FILBERT TREES. WE OFFER BARCELONA AND BRINNUT TREES WITH POLLENIZERS GRAFTED INTO THEM. These are very heavy bearing trees.

BARCELONA AND DU CHILLY ON ONE TREE	
BRINNUT AND HALLES GIANT ON ONE TREE	
	Each 2 trees or more
4 to 6 ft.	\$1.50 \$1.25
Select Heavy Two Year	\$2.00 \$1.75

Note enclosed price list for low prices offered on commercial planting sizes for all grades of filberts, etc.

Tip Layered and Heavy Nursery Grown Transplanted Filbert Trees

Many conflicting statements have been made regarding so called tip layered or transplanted nursery stock on its own root. Nefarious and unfair nurserymen have made broad statements about these types of trees being free from suckers, after setting out in orchard form. These statements are untrue and such statements should be immediately branded as false.

Transplanted filbert trees are secured in our nurseries by lining out so called tip layers in the nursery row. The roots of this lining out stock are pruned back heavily before planting, in the nursery row, to eliminate as far as possible all the old root, which causes undue sprouting or suckering at the base of the tree for many years to come, after planting has been made in your orchard. However, we assure you that if suckers are properly taken off of the base of the tree in your orchard during the first ten years of rapid growth,

you will have a grove more or less free from base sprouting. Do not be misled by unscrupulous nurserymen who state that their tip layered or transplanted filbert trees will grow an orchard free from suckers. It is not true.

This transplanted filbert tree will produce a fine orchard that will bear the finest of filberts. Our trees are well grown in fine sandy loam, rich in fertility, and we can assure you of the strongest of root systems obtainable on this sort in both two and three year trees.

Tip layered trees are taken from the mother tree the first or second year, depending upon the root system obtained. We consider that better root growth of highly distributed laterals will be obtained if this so called tip layered stock is lined out in the nursery row for one or two years. However, we offer these to planters at a great saving in price owing to the little cost of producing a tree of this sort. Our late price list will denote cost of this tree. Many of the present profitable groves of filberts on the Pacific slope were planted with **TIP LAYERED TREES AND TRANSPLANTED NURSERY GROWN STOCK**. This type of tree will produce a fine orchard and will adapt itself to most any kind of soil.

THE EXCELLENT ROOT SYSTEM OBTAINED ON OUR TREES FROM THE RICH RIVER SILT SOIL OF OUR TUALATIN NURSERIES IS FAR SUPERIOR TO THE ORDINARY FILBERT TREE OFFERED.

VARIETIES TO PLANT

After several hundred years of cultivation in England, France, Spain, Italy and Sicily there are probably three good commercial sorts to plant today for commercial use. Ranking as named in greatness of acreage now planted, Barcelona, DuChilly and Brixnut. These sorts, however, must be pollenized with other sorts of merit to insure heavy annual yields as will be denoted under their respective titles. The chief variety planted commercially today is no doubt the Barcelona nut and is highly recommended by our leading horticulturists as being one of the best nuts for high productivity and commercial value. The DuChilly is widely planted particularly in Western Washington where they have proven very profitable. The Brixnut is widely planted in Oregon and Washington and is rapidly gaining favor with discriminating planters as an immense producer of extremely large, highly flavored filbert, since being introduced in 1914. Note photographic cuts of nuts for size of this filbert.

Barcelona

A large, round nut, fully self husking, rich in flavor, kernel uniform in size, clean of pellicle and very prolific when pollenized with about 15 per cent DuChilly, Daviana and White Aveline, alternated by setting every third tree in every third row to a pollenizer. Tree a strong, upright grower. Most widely planted of all filberts now grown.

DuChilly

A large, long nut, about 50 per cent self husking and balance readily husked by machinery or by hand, finest of quality demanding a premium over Barcelona, often used as a main commercial crop and bears exceptionally heavy when pollenized with Clackamas, Alpha or Gassoway. We strongly recommend the Clackamas used every third tree in every third row, or alternated with the other two. Tree is not a strong grower and should be planted slightly closer when used as a commercial crop.

Brixnut

An immense, large, round nut, fully self husking, very rich in flavor, extremely clean of pellicle, a very certain producer owing to its late blooming period in February and March, by escaping some very unfavorable weather in January, and should be pollenized with every third tree in every third row planted to Halles Gante.

The "**Brixnut**" was developed in 1914 near us at McMinnville by C. T. Brixey, a pioneer nurseryman. We have kept in close personal observation of this nut and see a great future for those who plant this sort. Growers offering Brixnut have received a premium of as much as 10c per pound over Barcelona when this nut was first offered commercially. At present merchants are willing to pay a premium for this nut, owing to the immense size and exceptional quality of the nut. Note photograph for size.

The Brixnut tree is a very vigorous grower but should be pruned heavily while young as it has a strong tendency to come into bearing at a very early age. Nuts should be picked off until the fourth year for best success with this sort, as the growth will be retarded when left on the young trees. Growers of the Brixnut have formed a very active selling organization for this particular nut, receiving a premium over other sorts. Anyone planting this nut can join the "Pacific Coast Brixnut Association" at McMinnville, Oregon, and sell their output through this organization at a very small cost to them.

We are certain that the Brixnut will outbear any other standard sort of filbert of equal age and we offer the following estimated production for Brixnut trees, taking our

computation from the production figures of other standard sorts:

Age of Orchard	No. Trees per Acre	Min. Average per Tree	Min. Average per Acre	Income per Acre at 15c per lb.
Fourth year	100	2 lbs.	200 lbs.	\$30.00
Sixth year	100	5 lbs.	500 lbs.	\$75.00
Eighth year	100	12 lbs.	1200 lbs.	\$180.00
Tenth year	100	16 lbs.	1600 lbs.	\$240.00
Twelfth year	100	20 lbs.	2000 lbs.	\$300.00
Sixteenth year	100	30 lbs.	3000 lbs.	\$450.00
Twentieth year	100	40 lbs.	4000 lbs.	\$600.00



"BRIXNUT" ACTUAL SIZE

Plant Brixnut filberts on that vacant land you now own and in a few years you will have an income that will serve you or your family better than life insurance or an income from so called "gilt edge securities or bonds." Write today for more information about this wonderful filbert.

Daviana

A long, striped nut of the DuChilly type, excellent pollenizer for Barcelona and DuChilly; not planted commercially, quality good and tree a very strong, upright grower.

Clackamas

A large, round nut, quality excellent, tree a strong grower, extremely large catkin producer of pollen and highly recommended as a pollenizer for the DuChilly. Use in every third tree in every third row.

Halles Giante

A very large, round nut, very similar to Brixnut, can be sold as Brixnut and used as the most certain of pollenizers for the Brixnut. Tree a strong, upright grower. Nut is excellent quality. Plant only with Brixnut, every third tree in every third row.

White Aveline

A small, long shaped nut, very thin shelled, excellent quality, very prolific and used only as a pollenizer for Barcelona. If you desire to set only two trees we recommend this sort with the Barcelona.

"Alpha," "Gassoway," "Montebello," "Nottingham" are offered by us to commercial planters desiring these sorts as pollenizers.

SPECIAL NOTE TO PLANTERS

Peculiar blooming habits of filberts make it necessary to plant, as pollenifiers, different sorts of pollenizers with Barcelona and DuChilly when using either of these for main commercial plantings. By using more than one sort you extend your pollen period over a longer season, thereby insuring a much heavier yield, catching both the early and late blooms of your commercial sort. This feature is important.

POLLENIZING CHART

The letter "X" denotes your commercial variety.

The letter "P" denotes proper position for placing all pollenizers.

x	x	x	x	x	x	x	x	x	x	x	x
x	p	x	x	p	x	x	p	x	x	p	x
x	x	x	x	x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x	x	x	x	x
x	p	x	x	p	x	x	p	x	x	p	x
x	x	x	x	x	x	x	x	x	x	x	x

The above chart is given as a guide only to planters who do not wish to take the matter up directly with us. On large commercial plantings of either Barcelona, DuChilly or Brixnut we supply individual charts to suit the planter's personal planting after being staked out. Write us for yours. For those wishing to set only one tree in their yard we offer top grafted sorts with two or more varieties grafted in to insure the small home owner of a bountiful yield. Note page 5 for price of this tree.

Distance for Planting

Filbert trees should be planted 20 feet by 20 feet either the square or diagonal method. The square method requires about 108 trees to the acre. Add 15 per cent for the diagonal method. On heavy, rich bottom soil of exceptional fertility it might be well to plant 70 trees of the acre at 25 feet each way. DuChilly trees are sometimes set commercially at 16 feet each way, owing to their not attaining as large a size as the Barcelona or Brixnut trees.

Prices of Nursery Stock

Note our General Price List for prices on all varieties and sizes of filbert trees, or Special Price List contained separately in this catalog.

It has been our most sincere aim to give only facts herein which would aid in clarifying the minds of those interested in planting a filbert orchard. Too often horticulturists have left their students in a quandry as to what is best to plant and how to pollenize, to insure the very heaviest of production.

We shall endeavor at all times to deliver to our customers only the finest, thriftiest and most vigorous of high quality filbert trees, grown on the best of fertile soil and having strong, healthy root systems. We also assure you that our prices on filbert trees are consistent with reliable and competent nurserymen and should we offer special values at any time will in no case sacrifice grade or quality. Special rates on lots of 100 or more.

Dependability

In the past 45 years we have been engaged continuously in the growing and shipping of Highest Quality Nursery Stock, Fruit Trees, Nut Trees and Ornamentals to all sections of the country. **Success in planting nut or fruit trees depends solely upon the selection of certified buds** taken for propagation from trees with a record for bearing quality as well as quantity and to have these fruit or nut trees budded upon the proper root systems adaptable to various soil conditions. **We accept this responsibility.**

PLANT Grafted Vrooman Franquette Walnut Trees

\$ **A Certified Proof that Walnuts Pay Big Profits** \$

My ten acres of 12 year old Franquettes bore eight tons in 1931, bringing me 20c per lb. At 13 years the same tract bore ten tons in 1932. I have about five acres of young Franquettes coming into bearing this year, making a total of 15 acres I now own. I anticipate from 12 to 15 tons of nuts this year from the 15 acres, ten acres which are 15 years old and five acres which are nine years old. My income will be more than \$3000 from this tract this year, 1934.

C. N. Collins,
Gaston, Oregon. \$

The culture of walnuts throughout the Pacific Northwest has reached such proportions that it bids fair to become one of the richest horticultural crops in this district. Having weathered the adversity of early experiments, in the way of planting, type of soils, varieties, and ways of marketing, we feel safe in stating that the commercial planting of grafted walnuts throughout Oregon and Washington may well continue with safety,

bearing in mind the essentials needed or used in the laying of a successful business enterprise of any kind.

The mere fact that the consumption of walnuts throughout the U. S. is increasing annually and that we are consuming annually more than a pound to the person, should relieve the most skeptical persons of any thought of over-production for many years to come. About 60 per cent of all the walnuts now consumed in the U. S. are imported annually from France, China and Italy. The balance is being produced on the Pacific slope.

ADAPTABILITY: Oregon and Washington have proven to be particularly suited to the production of high quality Grafted Franquette Walnuts. Favorable soil conditions in the Northwest, quality of nuts secured, low priced soils available for the planting of walnuts, and low taxation are but a few of the factors which will eventually make the Northwest a leader in nut production. Co-operative marketing, proper distribution, and general advertising have already placed the Grafted Franquette foremost in its field.

In the following paragraphs, we shall make an effort to establish the proper essentials for the successful planting and growing of a commercial walnut grove.

VARIETY: After many years of experience in handling and growing grafted walnuts, we have discarded practically all varieties excepting the Vrooman Franquette for commercial plantings. This variety has proven to be the best yielder, highest quality, and most hardy tree for the Northwest, blooming late enough to insure regular crops of finely filled nuts. This combination cannot be found in many sorts.

PROPER SOIL: What is true of other commercial fruit trees of the Northwest is also true of the walnut. They do best in well-drained soil, clay loam and mellow soil of the valley prairie, upland hills, and lower land, where the soil has good texture and good drainage. Avoid soggy and all white land.

DISTANCE PLANTED: This is a matter of choice, left to the planter, as many successful walnut planters vary on this. It is a matter to be decided by each individual planter. Plantings are being made from 40 to 60 feet apart, but probably the best and most used distance, where walnuts are set alone and without fillers, is 40x60 feet.

FILLERS USED: When planting a walnut orchard, owing to the fact that they are large growers, and require plenty of room when in full bearing, the planter must arrange his distance so that when walnuts are large they will have sufficient room to take care of themselves; and this means the walnuts require a greater distance than any other fruit tree.

To make the land work to full capacity, where grafted walnuts are planted a long distance apart, we suggest the use of some good filler, and where location, soil, etc., are suited, the following fruit and nut trees are often used with success, bringing good dividends to the grower from the 3rd to the 5th year. Peaches, pears, filberts and Montmorency Large sour cherries have proven in the past to be very profitable where interset with grafted walnuts. Reference to our general catalogue will show the number of fillers required to interset at various distances.

In the meantime, while the walnuts are coming into full bearing, and do not require more room, the filler trees can be removed in part or all, and the planter has realized good money by doing this.

CROPS GROWN BETWEEN ROWS: To bring in a revenue, while the orchard is young and a non-producer, intercropping can be practiced with walnuts, where planted alone, and as well where planted with any other crop. Any cultivated crop can be grown for four years at least, and in some cases longer, such as potatoes, berries, beans, corn, strawberries, etc. In using a cultivated crop, your orchard is properly worked, which is very necessary to trees, and at the same time it is paying to you, and you are not at an expense, such as clean cultivation would entail, where no crops are grown. At the time the orchard begins to bear, or has produced a good growth, all intercropping should be stopped, and clean cultivation given to the orchard.

CULTIVATION: Walnuts should, the same as all other fruit trees, receive the necessary cultivation; either clean cultivation should be given, or intercropping practiced. Uncultivated crops, such as grain, hay, etc., can be grown, by leaving a strip of several feet along each side of tree rows, and the same to be kept cultivated. We, however, do not recommend this; they will do well, yet not so well as where the entire ground is worked; for in this country, it is very necessary that we conserve all moisture possible for the benefit of the orchard.

For the young planted grafted walnuts we suggest thorough hoeing be given them at least three times each season. It is well to do this at intervals of about three weeks, starting in the middle of May and carrying on into the summer. This will insure the young trees of securing enough moisture to make rapid growth. A young tree properly planted and cultivated, will, at the end of three years, grow to a height of 10 to 12 feet and will carry a nice top of five to six well formed limbs.

HOW TO PLANT: In setting walnuts, the hole should be dug roomy enough to receive roots, without crowding, and should be set about two inches deeper than where

they stood in the nursery row. Top soil should be put in first and the dirt gently firmed as it is being put in (do not ram nor pound dirt in), and see that roots are imbedded in a natural way, and not crowded. We contend that a hole made good and roomy, enough so to receive the tree in good shape without crowding, is better, for we believe that, by having the hole right in size, about 3 by 3 feet, trees make a better start the first year, and are not so liable to dryout. In pruning the roots when setting, they should be given each one a clean cut at ends with a sharp knife; this also applies to the tap root. There is nothing technical about setting trees; only necessary to use good judgment.

TIME OF PLANTING: Walnuts can be set, beginning in the fall and throughout the winter and on up to spring, this being true also of all trees. Winter setting is preferred, for the reason that in setting in the winter, they get started off with a root system as spring opens up, and in setting in the spring they have to make this root system before they can start; and if it should happen that we had a dry season, the winter planting will not suffer, as those set in the late spring.

SOURCE OF SCION WOOD: Our long experience as nurserymen and orchardists has proved to us that the selection of scion wood for propagating is the most essential factor in the securing of quality and high productivity. The first grafted walnut trees grown and sold in the Northwest prove that there was a big field for selection, as the most of them were of very poor quality. The scion wood for our nursery stock is taken from the best of Grafted Vrooman Franquette walnut trees, having records in production and quality. This is the best insurance for your future walnut grove.

ROOT STOCK USED: We consider, after many years of experience in growing grafted walnuts, that the California Black Walnut is far superior to any other type of root system. They make excellent unions, are strong and hardy growers, and will produce a commercial tree at 8 years far superior in size to those that have been grafted on the Eastern or American Black Walnut root. This is a proven fact and can be pointed out to those interested. The American Black is being used by some growers but is found to produce a constriction at the union, which is considered a serious feature by propagators. Our stock is grafted high enough from the ground to safeguard against the loss of trees by mushroom rot, which often occurs where trees are improperly grafted close to the ground. We suggest the use of tree protectors the first and second year on all young trees.

HOW WALNUTS ARE PRUNED: There is a difference of opinion with many successful walnut growers as to methods of pruning, and this is mostly to be worked out by each individual planter.

The most used and popular style of pruning, up to recently, has been to start a high head, around six feet and higher. Another system of pruning is to cut the tree, when set out, around and under two feet high, but in cutting low be sure that you have a sufficient number of good buds left to start trees off. After a tree is cut back, the several buds which you have left will start out; let them grow until they are far enough along for you to determine which one will be the best and strongest; then take off all of them, leaving this selected one to grow up and make your tree. In the meantime set a stake by the tree to train this new branch to, and the second year train center lad up to 7 or 8 feet. Let branches form at this point.

The height to start walnut head, and system of forming, should be left up to the planter, he to make his selection from the several systems, for it is up to him to make his own orchard, and each one has his own way of getting at the same results.

We have had years of experience in trimming and handling fruit trees, and will say that the first few years' life of all trees is the most critical time of their life; and this is the most important time to get your trees started off, and to get them started off right; and to force quick and early growth, it is necessary to do it by cultivating and pruning. The necessary amount of trimming which should be done to trees acts as a stimulant, and is a great factor in the early life of the tree. Trimming and pruning of walnuts is confined chiefly to the first period of their growth. After a well formed head is secured nature takes care of the tree to a large extent.

WALNUT YIELDS: Soil conditions, air and surface drainage, cultivation and cover cropping with proper green forage, will have a great deal of control over production in many groves. The Grafted Vrooman Franquette is an early bearer of fine walnuts, often setting nuts the second and third year after being planted. The following yields are taken from our own groves and reliable walnut statistics. At eight years a yield of 30 lbs. and over is not uncommon in the Franquette, making them a commercial asset from this period on. Nine and ten year trees often produce 40 to 80 lbs. Ten to 12 year orchards are ranging from 80 to 100 lbs. We have records to show that in parts of California single trees have produced from 500 to 700 lbs. A very conservative estimate for trees ranging from 12 to 14 years old would be around 2000 lbs. per acre where planted 40 by 40 feet each way. Walnuts are capable of bringing the grower several hundred dollars per acre, after attaining fair size.

Orton Griebler of Gaston, Oregon, produced on his Grafted Franquette orchard west of Gaston an average yield of 45 lbs. of green walnuts on 17½ acres 8 years old, or 11,500 lbs. of green nuts from this orchard planted in 1924. This crop was harvested the summer of 1932. The average shrinkage in drying would be about 30 per cent, leaving him over 8000 pounds or 4 tons of dried Franquette walnuts from his 17½ acres at 8 years old. On 28 acres of trees planted one, two, and three years later, he received more than four tons of green Franquettes.

Eugene Hubbard of Dundee, Oregon, harvested on one acre of our Grafted Franquette walnut trees (or 28 trees) 240 pounds of dried walnuts at six years old. He had peach trees planted with these walnut trees for fillers and realized several hundred dollars on them the fourth and fifth year.

HARVESTING WALNUTS: Grafted walnuts usually ripen in the Northwest in the fore part of October. The first fall rains helping to break the hull, the nut drops to the ground. They are then picked up and taken in and washed. The washing is now done by perfected machines for this particular purpose. There are several reliable machines offered at this time. After the washing process, they are dried in dryers, with a heat of about 90 degrees. This temperature will insure finely flavored walnuts. From 36 to 60 hours are required, according to the type of dryer used. Many small plantings are being handled with hand washing troughs and improvised dryers, which turn out fine nuts. Those who are near commercial walnut dryers will find them more economical to patronize.

WHO ARE PLANTING: All classes of people are planting walnuts—farmers, land owners, orchardists, professional and business men. Business men say they are planting walnuts because nature will produce them an income, regardless of the ups and downs and fluctuations of business activities, such as business lines are subject to, thus eliminating the business worry which goes with business.

A STAPLE CROP: Walnuts are a staple commodity, non-perishable, and every indication leads one to believe that, with our ever increasing population the market and demand will increase heavily. The fact that the walnut crop of the Pacific coast is one of our richest horticultural crops proves it to be a staple industry.

CONSUMPTION OF WALNUTS: The Year Book of Agriculture issued by the U. S. Government for the year 1927 shows we imported from foreign countries the following amounts of walnuts: Shelled walnuts, including to the meats alone, 20,979,000 lbs.; unshelled walnuts, 25,706,000 lbs. This means an importation equalling 65,000,000 pounds of unshelled walnuts for that year. Previous years show similar importations. New methods of using and consuming the walnut throughout the entire year have caused tremendous consumption of this commodity. Prices now received for our grafted walnuts show heavy advances over the foreign nut.

CONCLUSION: Looking back over the steady progress made in the past years in nut production in the Northwest and the constant demand for this staple product, it is safe to state that an acreage planted to good Grafted Vrooman Franquette Walnuts will become a real asset for those seeking a safe investment. Nut growing is confined to a very small area of the U. S. and the prices received for them have shown a steady increase over a long period of years. An orchard planted with our Grafted Vrooman Franquette trees will be a good source of revenue for you. Submit your list for quotations on large plantings.

A NEW Certified Pollenizer for Grafted Franquettes

We have in the past advocated the planting of Grafted Franquette Walnut orchards without using a good pollenizer. A few years back we labored under the impression that Franquettes did not require a strong pollenizer but were self fertile. Many years the Franquettes bear heavy crops without cross fertilization but under the strain of present economic conditions, we must be assured of a good to a heavy crop annually. We have never before offered a Certified Pollenizer for the Franquette but can assure any planter that his yield will be highly increased by the use of our new pollenizer **Major**. It is now being used by one of the largest bearing orchards in Oregon and is proving a valuable aid as a very profitable pollenizer and has increased the yield where used, as much as thirty per cent.

THE MAJOR POLLENIZER: A large walnut of Franquette type, thin shelled, well sealed, blooming about five days after the main catkins on the Franquette, a vigorous grower and hardy. You will produce thousands of dollars worth of additional Franquettes with this pollenizer.

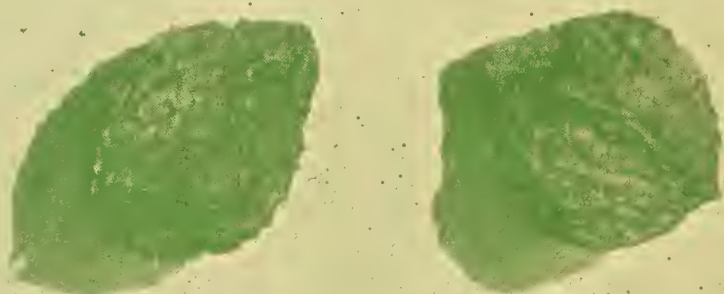
PLANT

New Varieties of Whole Meated Black Walnuts

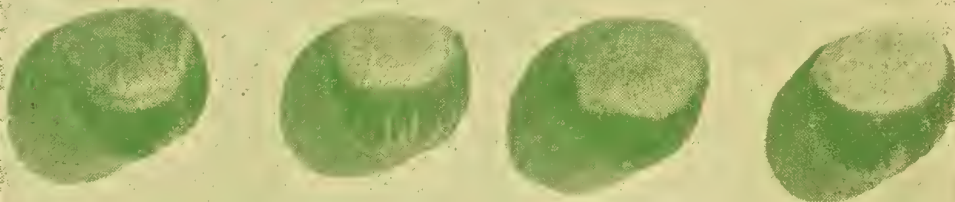
Plant that waste land to New, Large Meated Hardy Grafted Black Walnuts. Enormous yields obtained at an early age. Rapid growing habits of these new types of black walnuts make them very desirable for timber and shade trees. Extremely hardy. Large meats easily obtained from these easy-cracking, grafted black walnuts. Hardy in every state. Will polletnize Franquette trees.

We offer three new sorts of Grafted Black Walnuts, namely: The Thomas, Stabler, and Stambaugh Black Walnuts. These sorts are extremely hardy and will serve many of our colder sections along the coast with a very profitable nut. They make beautiful shade trees as well as being very prolific at an early age. Three year trees often bear many fine, large, thin shelled nuts, proving that they are early producers. They are very rapid growers and will succeed in Canada, Washington, Oregon, California, Idaho and throughout the U. S.

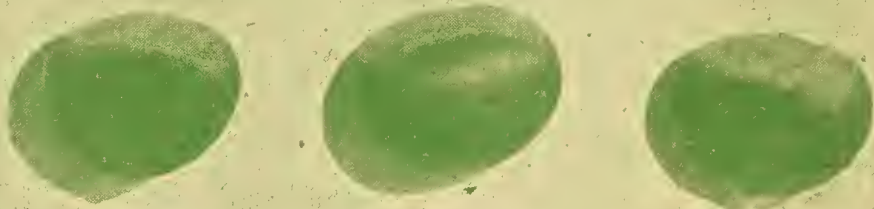
Row 1—
Grafted Stabler
Black Walnut



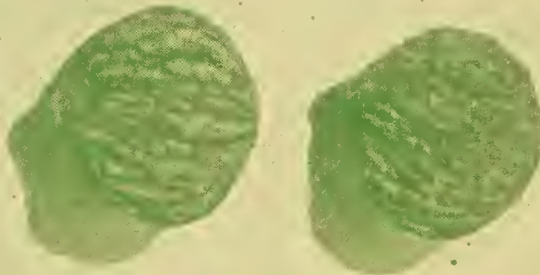
Row 2—
Brixnut Filbert



Row 3—
Grafted
Fuller Chestnut



Row 4—
Grafted Thomas
Black Walnut



They are recommended by the Dept. of Agriculture and are bearing heavy in their native states in the Middle West and East.

The flavor of these three wonderful Black Walnuts is without question the very finest. Both are easy to crack, produce large meats when cracked, make wonderful flavored candies. The black walnut retains its true flavor after cooking and is very popular with bakers, candy manufacturing companies, and in the use of ice creams.

The easy cracking qualities of these New Grafted Black Walnuts cannot be compared with the old black walnuts. They produce large meats and will be profitable to anyone wishing to plant a commercial orchard. You will not have any worry as to their hardiness as their home is in Pennsylvania and New York, as that is where these originated, and were first brought into bearing. It is not hard to crack this type of nut so that whole halves are secured.

Varieties to Plant

THOMAS: Very large, thin shelled, splendid flavored, easy cracking nut. A fast and upright grower. Large meat obtained when cracked. Heavy bearer in 5 years.

STABLER: Nut medium size, but excellent cracker, thin shelled, excellent flavor. Tree is prolific bearer. Kernel comes out easily, often not divided, so the meats can be extracted in one piece. Bears early.

STAMBAUGH: Large, thin shelled nuts, easy cracking, and fast growing tree. Does well planted with Thomas or Stabler.

NOTE: Refer to photograph for picture of Thomas and Stabler Black Walnuts.

PLANT UNPRODUCTIVE LAND: These Grafted Black Walnuts will thrive where any black walnut will grow. It will pay you to plant this unproductive land to these nuts. The timber will be valuable in years to come as well as the big crops of black walnuts that you will harvest. Write for prices on large plantings or refer to enclosed price list.

CHESTNUT Growing On the Pacific Coast

Present indications show encouraging possibilities for Grafted Chestnut groves on the Pacific slope, particularly in the Northwest. Chestnut growing in the East is no longer a profitable industry. Disease and weevil have caused heavy losses to their groves. The West has never suffered from these adversities.

Bearing groves in Oregon and California show very heavy yields at exceedingly early age. Trees of the grafted type are paying good at seven years and will, under favorable conditions, produce more than 125 pounds to the tree at 10 years. Yields of 2000 to 4000 pounds per acre may be expected from trees 12 to 15 years of age. The fact that we are capable of producing fine chestnuts that are sold in car lots at 15 to 20 cents per lb. and that we are importing many millions of pounds of chestnuts from foreign countries, should interest the progressive horticulturist. The future for chestnuts will no doubt be good. The cost of producing and harvesting this crop is nominal. They require no special spraying, pruning or thinning. The nut falls free from the burr.

Chestnuts will adapt themselves to ordinary orchard soils with proper drainage. For large, rich, brown, glossy nuts far superior to those of our foreign competitor, we are receiving a premium of 5 to 8 cents per lb. Chestnuts produced in the Northwest show beautiful color, well filled burrs, large size and heavy tonnage.

The following sorts of grafted chestnut trees are proven sorts for this coast and a variety should be planted to insure good cross pollenization. This stock will be income producers at seven years.

Some of the following varieties were originated in Illinois and are hardy for the coast section well up into Canada. The chestnut industry has dropped out entirely on the Atlantic coast owing to blight. This coast has never been affected with the so called Oriental Chestnut Bark disease. The following article is taken from the U. S. Dept. of Agriculture year book on page 482 of the 1927 edition, showing a great field for chestnuts.

"There are three known orchards and grove plantings of chestnut trees in Southern Illinois which for many years have annually given highly satisfactory yields. Nuts from these trees (fig. 166) have readily brought from 18c to 30c per pound in Chicago, depending upon the grade and market conditions, less commission and shipping charges amounting roughly to 5 cents per pound. These nuts normally mature in time to reach the market well in advance of the imported product from Southern Europe, which retails at about half or two-thirds these prices. Nevertheless, even in competition with foreign nuts, the late home grown varieties have an established reputation which enables them to command a margin in price of several cents a pound during the early part of the import season."

Chestnuts will respond to the same cultivation, fertility, drainage and cover cropping as a walnut grove. Chestnuts do not blossom until summer time and are sure croppers.

The field for expansion in the chestnut industry is great. Markets are good, and a

grove of chestnuts will prove to be a valuable asset to any farm in the Pacific Northwest.

Pecans are well adapted to the warmer sections of California. They require a deep, rich soil, with ample moisture and good drainage. The large, thin-shelled, budded varieties which are now propagated exclusively, are far superior to the seedlings of a few years ago. Do not ripen in Northern states.

Price Each—	1 to 5	6 to 10
4 to 6 ft. grade	\$1.75	\$1.50
3 to 4 ft. grade	1.50	1.25
2 to 3 ft. grade	1.25	1.00

Write for prices on larger quantities.

BURKETT. Nut large, almost round, thin shelled; kernel well filled and of good flavor. The tree is vigorous and a heavy cropper in California. Plant Halbert of Success with it as a pollenizer.

HALBERT. Nuts rather small, almost round, and thin shelled. Kernel of delicate flavor and excellent quality. A heavy producer and bears when very young. An excellent pollenizer for other varieties. Self-fruitful.

SUCCESS. The most widely planted variety in California. Nut large and oblong. Shell medium thin, parting freely from the kernel, which is plump and of fine quality. Tree vigorous and a sure cropper. One of the best for the home orchard. Self-fruitful.

THE OLD EASTERN BUTTERNUT

A beloved forest giant of the East whose rough, hard-shelled nuts have provided pleasure for many foraging parties. We have grown some trees for those who wish to plant along this coast. They bear well here.

Strong 3 foot trees \$1.25



Grafted Chestnut Bearing First Year Planted

PLANT Grafted Chestnut Trees for Early Profits

The following sorts of Grafted Chestnuts are mainly hybrids of known quality introduced by the Government and reliable nurserymen both in the Middle West and Pacific slope. They bear exceptionally young and yield amazing crops at six to seven years old. Ordinary orchard soil will produce a wonderful chestnut and even some of the heavier soils grow wonderful trees. Chestnut trees should be set from 40 to 50 feet apart, using from 27 to 17 to the acre, and can be interset with fillers of peaches, cherries and other commercial fruits or berries and made to bring you an early income. These new grafted sorts are crossed with the European and American sorts.

COLOSSAL: A very large chestnut, deep brown, glossy color, strong grower, excellent flavor and often growing to a size larger than a fifty-cent piece. Falls free from the burr.

FULLER: Medium size, exceedingly fine flavor, exceptional bearer, and a fine keeper. One of the best sellers to the chestnut-buying foreign population. Falls free from burr.

LARGE AMERICAN SWEET: An extremely large nut, highly colored, ripens early and demands best of price.

ROCHESTER: Fine size, excellent quality, very prolific. A strong grower. Falls free from burr.

QUERCY: A large French sort, of fine glossy color. Prolific and fine quality. An early bearer.

PROGRESS: Medium size, fine flavor and strong grower.

CHINESE HAIRY CHESTNUT: A large, sweet, blight resistant Chinese sort.

CHESTNUTS FREE FROM FROSTS: Chestnuts do not bloom until May and June and are seldom if ever caught with frost. They are hardy and grow to be enormous trees. You will realize good markets and good prices for them.

ADVANTAGE OF GRAFTED CHESTNUT TREES: The great trouble with our native American sorts is that the pellicle or inner skin is enfolded in creases in the meat of the nut. This is not found in the above sorts of grafted hybrids.

ITALIAN OR SPANISH SEEDLING CHESTNUTS: This type of chestnut does particularly well along this coast. At present many planters prefer this type of tree to the grafted sorts. The size of the nuts and bearing habits of this tree are quite uniform and bring excellent returns, and at good prices. They are exceptionally strong growers and make beautiful shade trees, with large dark green leaves. The nuts are large, sweet and excellent quality. Large crops are often produced on very young orchards. Plant several trees together for good pollenization. Note enclosed price list for prices on quantities.

ALMONDS

Almonds are one of the most profitable nut crops on the Pacific Coast. They bear well in the Northwest as well as California when proper combinations are used to insure pollenization. Write us for full details.

Two or more varieties of Almonds must be planted together, in the right combination, to secure successful pollenization. Good combinations are Nonpariel and Drake or Texas, Nonpariel and Ne Plus Ultra, Ne Plus Ultra and I. X. L.

DRAKE: A good commercial nut because it bears uniform crops and adapts itself to all almond districts. Medium size, almost round, with a medium soft shell, plump and well filled. A good pollenizer for Nonpariel.

NE PLUS ULTRA: A widely planted and popular almond, chiefly valuable because of its very attractive outside appearance and its generally large size. The nuts are large and long with a soft, corky shell. A good pollenizer for Nonpariel.

NONPARIEL: Probably the most valuable commercially grown variety in California because of its excellence for shelling purposes and its habit of bearing regular and uniform crops. Medium size, soft shell, with plump, elongated kernels.

I. X. L.: This variety brings the highest prices for nuts marketed in the shell because of its clean, attractive appearance. Medium sized, elongated, soft shelled nuts.

TEXAS: Now one of the most popular almonds commercially because of its extremely heavy, consistent crops of small, soft-shelled, plump nuts, excellent for shelled kernels. A late bloomer and good pollenizer for Nonpariel and Drake.

NOTE ENCLOSED PRICE LIST for prices on almonds. Special prices quoted on lots of 500 or more.

IN CONCLUSION: Our stock is cultivated, not irrigated. The deep, rich, sandy loam of our Tualatin Valley Nurseries enable us to supply strong, hardy, vigorous trees, with highly developed root systems. We have thousands of satisfied customers and solicit inquiries from new customers and commercial planters. We assure you that your order will receive our careful personal service and attention. Submit your order today with confidence that you will receive the very finest of quality in fruit or nut trees. Note our guarantee on enclosed price list.

CARLTON NURSERY COMPANY,

Since 1890

CARLTON, OREGON.

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A Husky Five Year Old Barcelona Orchard Grafted on Turkish Root at Carlton
(This is the New Type Suckerless Root)